GS400

SUZUKI

OWNER'S MANUAL

FOREWORD

In this Model GS400, which comes to you with our thanks and best wishes, yours are the fruits of the latest technological achievements of SUZUKI and the latest of traditional SUZUKI quality. The advanced engineering and manufacturing know-how of SUZUKI expresses itself in this new model meant to be a headliner in the exciting world of motorcycles.

Although Model GS400 does not discriminate the user, there's no denying that it gives fuller performance and serves with better economy when used the right way. It is for this notion that this Owner's Manual sets forth the minima of care and operating practices to which your machine behooves you to adhere. Get most from your Model GS400 by following the rules and advices, whether you drive it for enjoyment or for utility.

SUZUKI MOTOR CO., LTD.

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NOTICE: All information, illustrations, photographs and specifications contained in this manual are based on the latest product information available at the time of publication. The right is reserved to make changes at any time without notice.

(1) VEHICLE STOPPING DISTANCE

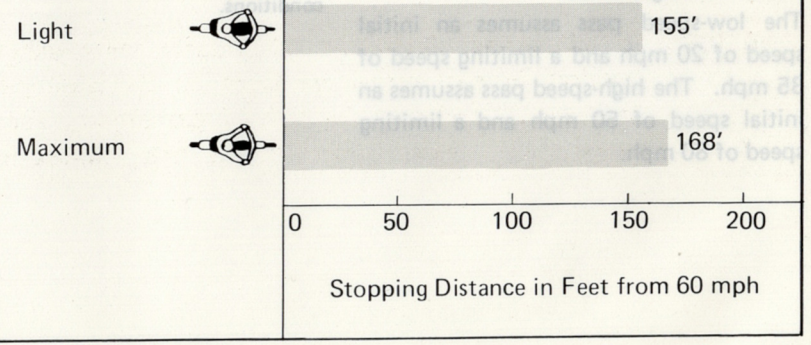
This figure indicates braking performance that can be met or exceeded by the vehicle to which it applies, without locking the wheels, under different condition of loading and with partial failures of the braking system.

NOTICE: The information presented represents results obtainable by skilled driver under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicle to which this table applies:
Suzuki motorcycle model GS400B

Fully Operational Service Brake:

Load



(2) ACCELERATION AND PASSING ABILITY

This figure indicates passing times and distances that can be met or exceeded by the vehicle to which it applies, in the situations diagrammed.

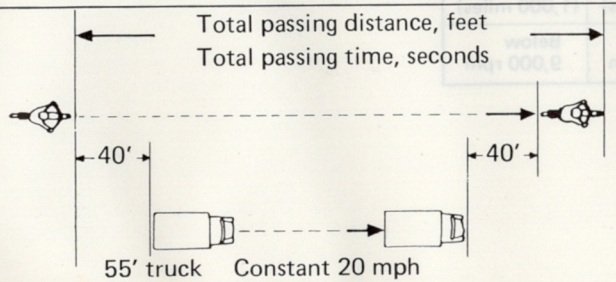
The low-speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph. The high-speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

NOTICE: The information presented represents results obtainable by skilled driver under controlled road and vehicle conditions, and the information may not be correct under other conditions.

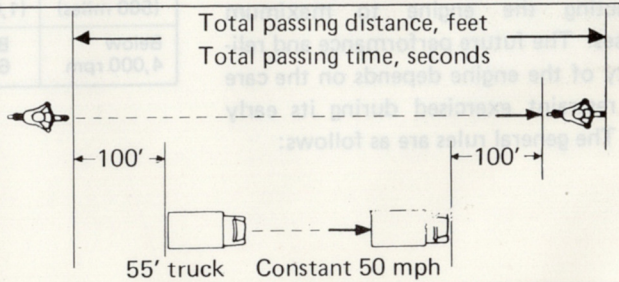
Description of vehicle to which this table applies:
Suzuki motorcycle model GS400B

Summary Table Low-speed pass . . . . . 349 feet, 7.1 seconds
High-speed pass . . . . . 991 feet, 10.0 seconds

Low-speed: Initial speed: 20 mph
Limiting speed: 35 mph



High-speed: Initial speed: 50 mph
Limiting speed: 80 mph



BREAKING-IN

In the process of manufacture the best possible materials are used and all machined parts are finished to a very high standard but it is still necessary to allow the moving parts to "BREAK-IN" before subjecting the engine to maximum stresses. The future performance and reliability of the engine depends on the care and restraint exercised during its early life. The general rules are as follows:

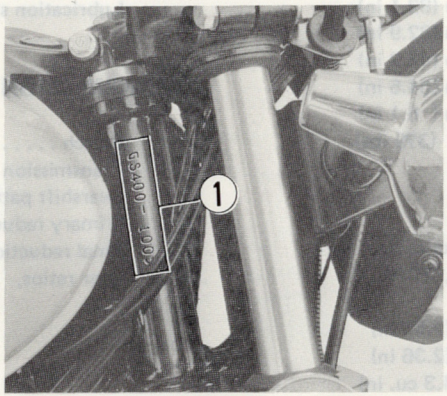
1) Keep to these break-in engine speed limits:

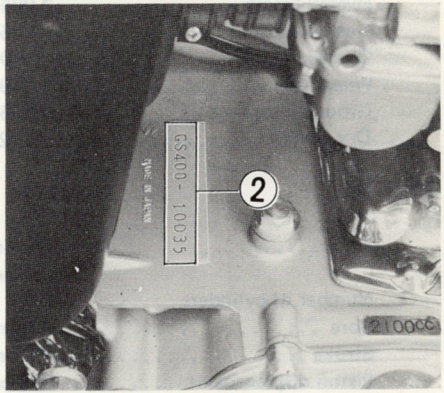
Initial 800 km (500 miles)	Up to 1,600 km (1,000 miles)	Over 1,600 km (1,000 miles)
Below 4,000 rpm	Below 6,000 rpm	Below 9,000 rpm

2) Upon reaching an odometer reading of 1,600 km (1,000 miles), you can subject the motorcycle to full throttle operation. However, do not exceed 9,000 rpm at any time.

SERIAL NUMBER LOCATION

The frame serial number ① is stamped on the right of the steering head pipe. The engine number ② is located on the rear side of the crank case. These numbers are required especially for registering the machine and ordering spare parts.





SPECIFICATIONS

DIMENSIONS AND WEIGHT

Overall length	2,085 mm (82.1 in)
Overall width	835 mm (32.9 in)
Overall height	1,110 mm (43.7 in)
Wheelbase	1,385 mm (54.5 in)
Ground clearance	155 mm (6.1 in)
Dry weight	172 kg (379 ibs)

ENGINE

Type	Four-stroke cycle, air-cooled, DOHC
Number of cylinders	2
Bore	65.0 mm (2.56 in)
Stroke	60.0 mm (2.36 in)
Piston displacement	398 cc (24.3 cu. in)
Compression ratio	9.0 : 1
Carburetor	MIKUNI BS34, Twin
Air cleaner	Polyurethane foam element
Starter system	Electric and kick
Lubrication system	Wet sump

TRANSMISSION

Clutch	Wet multi-plate type
Transmission	6-speed constant mesh
Gearshift pattern	1-down 5-up
Primary reduction	2.714 (76/28)
Final reduction	2.812 (45/16)
Gear ratios, Low	2.461 (32/13)
2nd	1.777 (32/18)
3rd	1.380 (29/21)
4th	1.125 (27/24)
5th	0.961 (25/26)
Top	0.851 (23/27)
Drive chain	DAIDO #50HDS or TAKASAGO #50SH, 104 links

CHASSIS

Front suspension	Telescopic, oil dampened
Rear suspension	Swinging arm, oil dampened, spring 5-way adjustable
Steering angle	42° (right & left)
Caster	62°
Trail	94 mm (3.70 in)
Turning radius	2.3 m (7.5 ft)
Front brake	Disc brake
Rear brake	Internal expanding
Front tire size	3.00S18-4PR
Rear tire size	3.50S18-4PR

ELECTRICAL

Ignition type	Battery ignition
Ignition timing	10° BTDC below 1,500 rpm and 40° BTDC above 3,600 rpm
Spark plug	NGK B8ES or NIPPON DENSO W24ES
Battery	12V 10AH/10 Hours
Generator	Three-phase A.C. generator
Fuse	15A
Headlamp	12V 45/45 (12V 40/30W)
Tail/Brake lamp	12V 8/23W (3/32 cp)
Turn signal lamp	12V 23W (32 cp)
Speedometer lamp	12V 3.4W
Tachometer lamp	12V 3.4W
Neutral indicator lamp	12V 3.4W

High beam indicator lamp 12V 3.4W
Turn signal pilot lamp 12V 3.4W

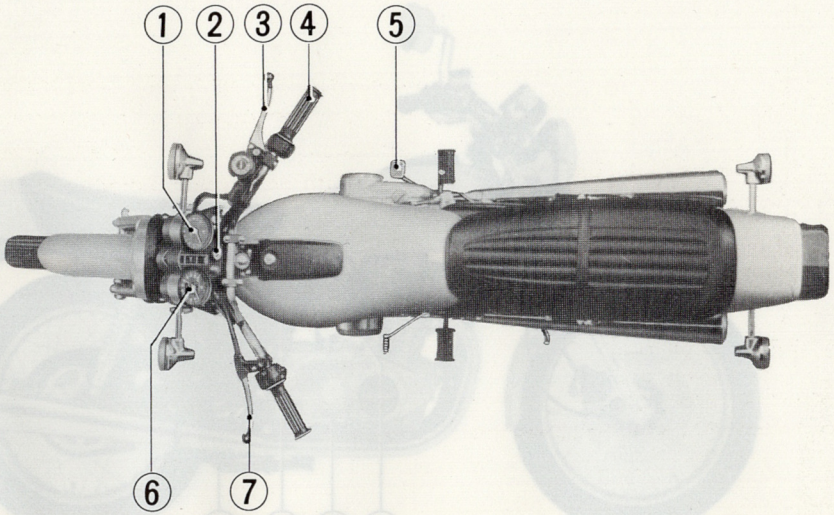
NOTE: The parenthesized figures in "ELECTRICAL SYSTEM" show the specification for USA & Canada Markets.

CAPACITIES

Fuel tank including reserve . . . . . 14 lit (3.7/3.1 US/Imp gal)
reserve . . . . . 1.6 lit (1.7/1.4 US/Imp qt)
Engine oil when changing . . . . . 2,100 cc (4.44/3.76 US/Imp pt)
Front fork oil . . . . . 145 cc (4.90/5.10 US/Imp oz) in each leg

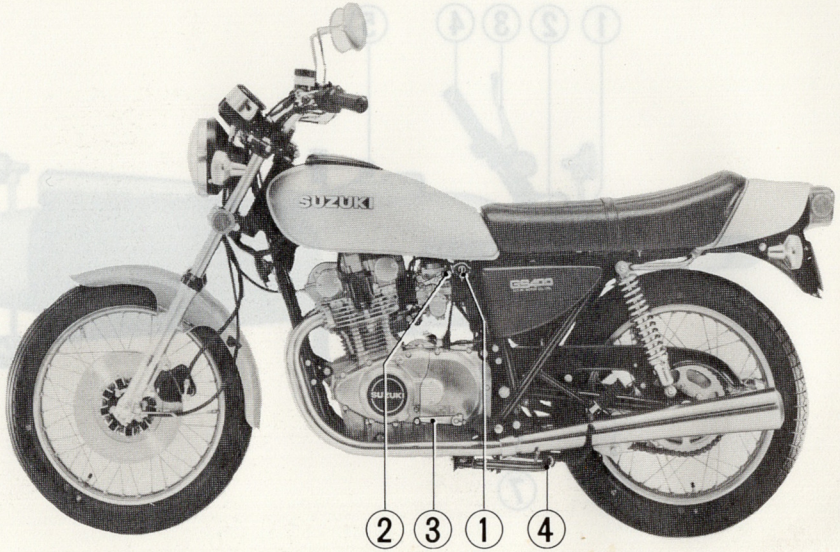
* Your motorcycle might differ in minor respects from the contents in this manual. This is because some minor modifications had to be made in the motorcycle to comply with statutory requirements of your country.

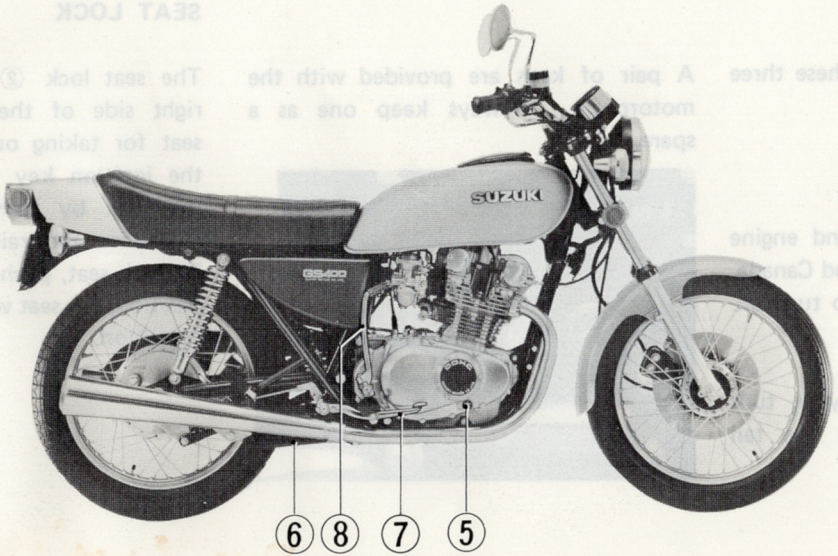
LOCATION OF PARTS



① *Tachometer*
② *Ignition switch*
③ *Front brake lever*
④ *Throttle grip*
⑤ *Rear brake pedal*
⑥ *Speedometer*
⑦ *Clutch lever*

① *Fuel cock*
② *Carburetor choke lever*
③ *Gearshift lever*
④ *Prop stand*





⑤ *Engine oil gauge*
⑥ *Center stand*
⑦ *Rear brake pedal*
⑧ *Kick starter lever*

IGNITION SWITCH

The ignition switch ① has these three positions:

OFF

All electrical circuits are off.

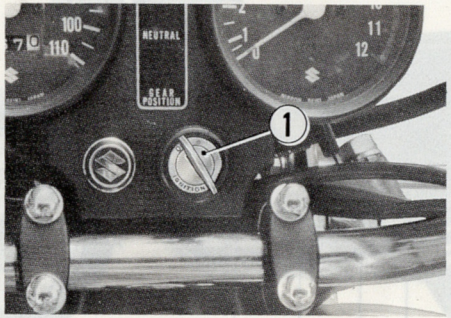
ON

Ignition circuit is closed and engine can be started. For USA and Canada, the headlamp and tail lamp turn on. The key will not come off.

PARKING

When parking the motorcycle, turn the key to this position: the tail lamp burns.

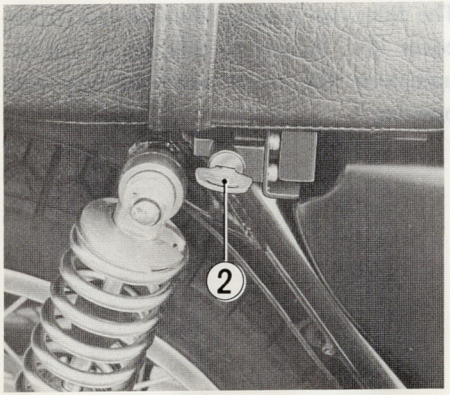
A pair of keys are provided with the motorcycle. Always keep one as a spare.



SEAT LOCK

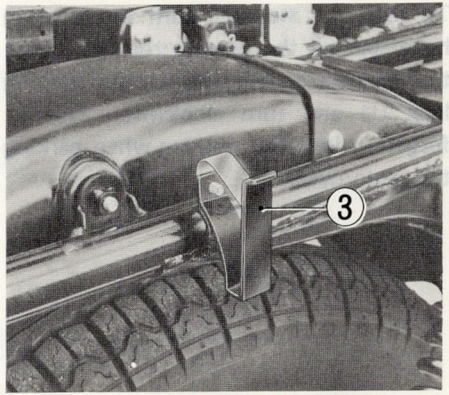
The seat lock ② is located under the right side of the seat. To open the seat for taking out the tool kit, insert the ignition key into the lock, release the lock by turning the ignition key clockwise and raise the seat by hand. To lock seat, push down the seat into the position; the seat will snap into "Locked" condition.

HELMET HOLDER



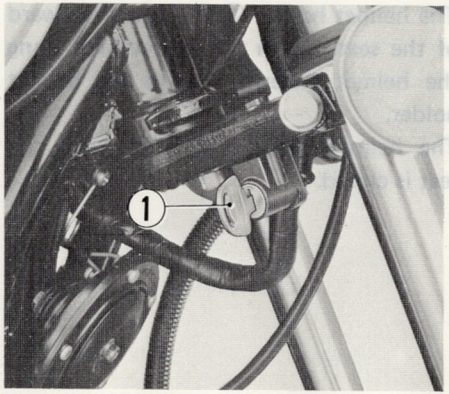
The helmet holder ③ is located rearward of the seat. With the seat opened, hang the helmet fastener ring to the helmet holder.

The helmet becomes locked when the seat is closed.



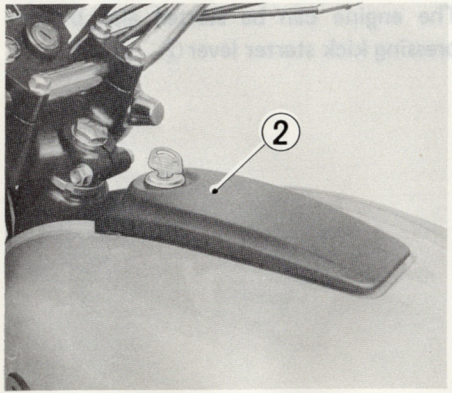
STEERING LOCK

To lock the steering, turn the steering handlebar all the way to the left, insert the ignition switch key in the steering lock ① and turn clockwise. Do not forget to lock the steering when parking the motorcycle.



FUEL TANK CAP

The filler cap is under the fuel tank front cover ②. Access to this cap is had by unlocking the cover with the key and opening it.

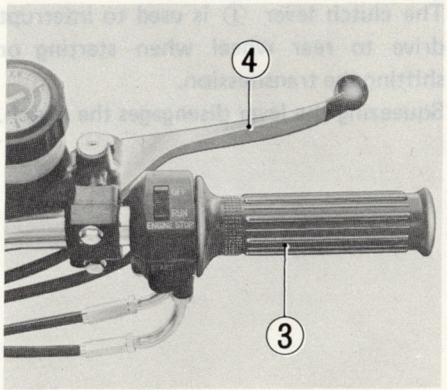


THROTTLE GRIP

Engine speed is controlled by throttle grip ③. Twist it toward you to pick up speed.

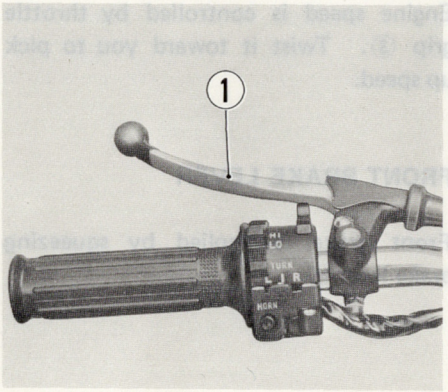
FRONT BRAKE LEVER

Front brake is applied by squeezing brake lever ④.



CLUTCH LEVER

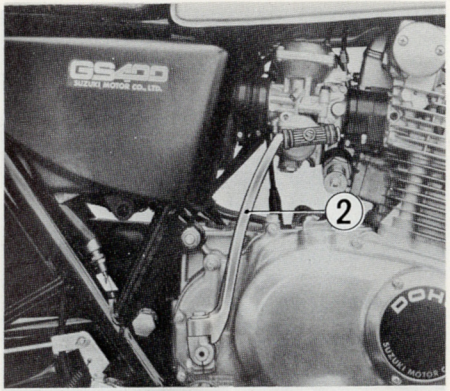
The clutch lever ① is used to interrupt drive to rear wheel when starting or shifting the transmission.
Squeezing the lever disengages the clutch.



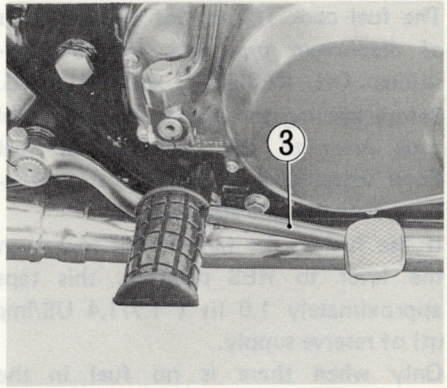
KICK STARTER LEVER

The engine can be started also by depressing kick starter lever ②.

REAR BRAKE PEDAL



Rear brake is applied by depressing brake pedal ③.
The brake lamp comes on as this brake is applied.



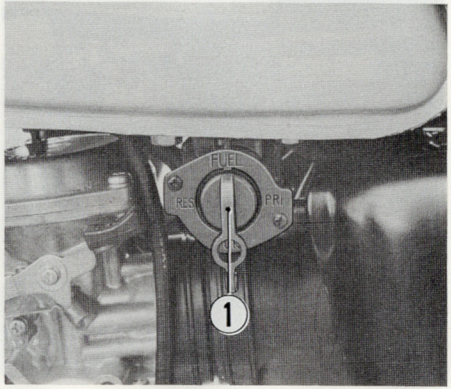
FUEL COCK

The fuel cock ① on this motorcycle is of diaphragm type and has three positions: ON, RESERVE and PRIMING. Before starting the engine, turn the fuel cock lever to ON position; the fuel flows from the fuel tank into the carburetor as the engine starts up.

If the fuel in the tank is too low, turn the lever to RES position; this taps approximately 1.6 lit (1.7/1.4 US/Imp qt) of reserve supply.

Only when there is no fuel in the carburetor, turn the lever to PRI position; the fuel then flows directly to the carburetor even when the engine is not running.

Upon starting the engine, be sure to return the lever to ON position.

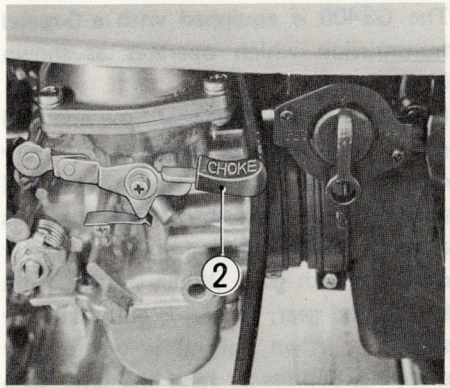


CARBURETOR CHOKE LEVER

The carburetor starter system gives easy starts even in cold weather by supplying a rich fuel/air mixture.

When starting a cold engine, push down choke lever ② all the way. When engine becomes warm and engine rpm increases, pull up the choke lever gradually to hold down engine speed below 2,500 rpm. After the engine is warmed up, return the choke lever all the way back.

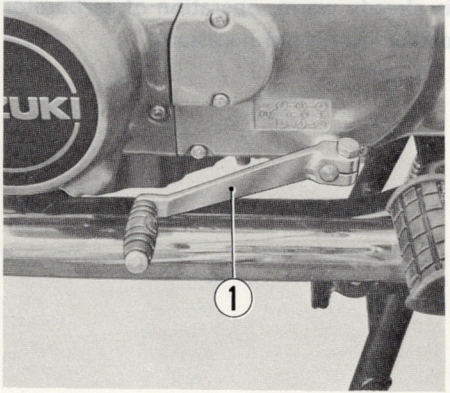
Do not open the throttle when this lever is down: if the throttle grip is turned even a small amount, the engine becomes hard to start. When the engine is already warm, operation of carburetor choke lever is not necessary.

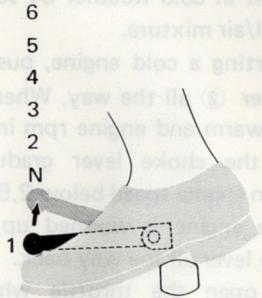


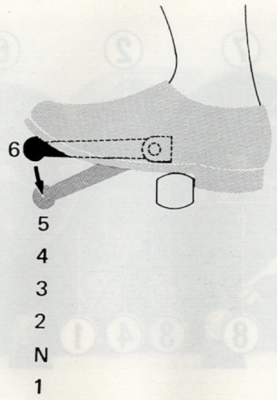
GEARSHIFT LEVER

The GS400 is equipped with a 6-speed transmission which operates as shown in the figure.

Neutral is located between low and 2nd gear. Low gear is engaged by fully depressing the lever ① from the neutral position. Shifting into higher gears is accomplished by pulling up the shiftlever once for each gear. When shifting from low to 2nd gear, neutral is automatically skipped. When neutral is wanted for stopping, depress or raise the lever to a halfway position between low and 2nd gear.



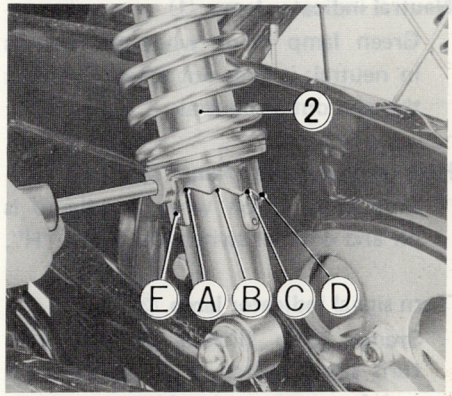




REAR SHOCK ABSORBERS ②

The rear shock absorbers spring tension should be adjusted to meet road condition and motorcycle speed.
Position C is for normal riding.

NOTE: Be sure to set the adjusting positions on both left and right side identically.



INDICATOR LAMPS

Neutral indicator lamp ①

Green lamp is on when the gear is in neutral; it goes out when you shift the gear out of neutral.

High beam indicator lamp ②

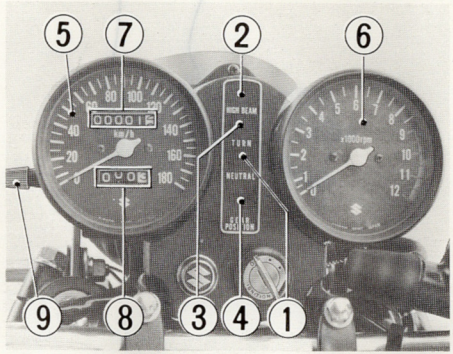
Blue lamp is on when headlamp is on and dimmer switch knob is in "H".

Turn signal indicator lamp ③

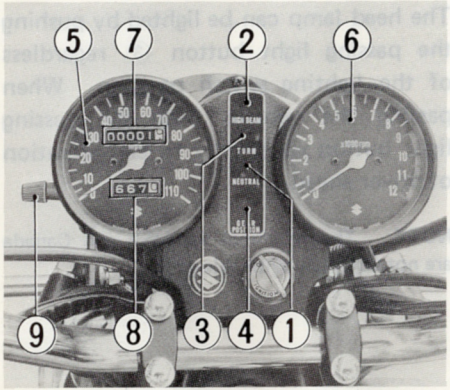
Orange lamp flickers as you slide turn signal switch knob to the right or left to turn on signal lamps.

Gear position indicator lamp ④

The numeral in this indicator shows the gear position, 1, 2, 3, 4, 5, or 6. The numeral disappears as you shift back to neutral; NEUTRAL INDICATOR LAMP (green) will burn instead.



INDICATOR



Speedometer ⑤

Speedometer indicates road speed in kilometers per hour or miles per hour.

Tachometer ⑥

Tachometer indicates engine speed in revolutions per minute.

Odometer ⑦

Odometer registers the total distance the motorcycle has been driven.

Trip meter ⑧

Trip meter is provided in the speedometer and indicates distance travelled. The trip reading can be set to zero by turning the knob ⑨.

LIGHTING SWITCH

Move the switch knob to ON position (red dot) to turn on the headlamp and tail lamp.
The lighting switch ① will close the lamp circuit only when the ignition switch is in ON position.

NOTE: For USA and Canada specification, the lighting switch knob is locked in ON position and the headlamp remains lighted as long as the ignition switch is on.

DIMMER SWITCH

When the dimmer switch ② is moved to HI position, the high beam is on. When the dimmer switch is moved to LO position, the low beam is on.

PASSING LIGHT BUTTON

The head lamp can be lighted by pushing the passing light button ③ regardless of the lighting switch position. When passing the vehicle, push the passing light button repeatedly to call attention of driver ahead.

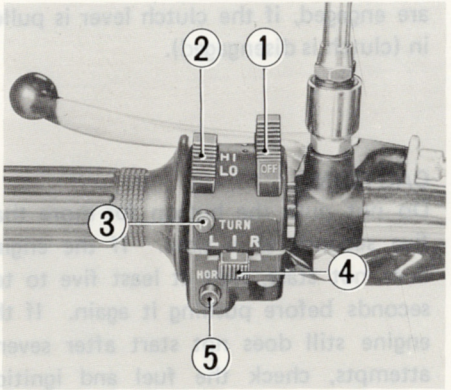
NOTE: The machines for USA and Canada are not equipped with this device.

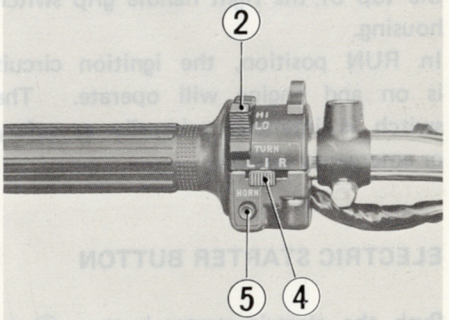
TURN SIGNAL LAMP SWITCH ④

Slide the switch to "L" position for left turning and to "R" for right turning.

HORN BUTTON ⑤

Press the button to sound the horn.





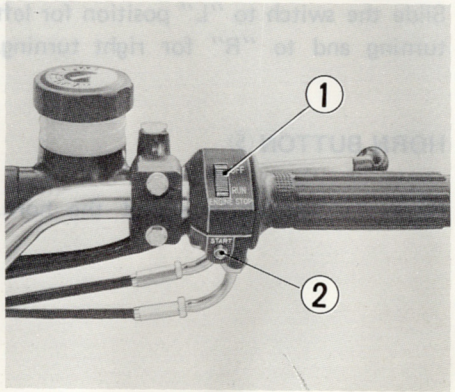
ENGINE KILL SWITCH

The engine kill switch ① is located on the top of the right handle grip switch housing.
In RUN position, the ignition circuit is on and engine will operate. The switch is intended primarily as safety or emergency switch.

ELECTRIC STARTER BUTTON

Push the electric starter button ② to start the engine. This electric starter can start the engine even when the gears are engaged, if the clutch lever is pulled in (clutch is disengaged).

CAUTION:
Do not push the button for more than five seconds at a time. If the engine does not start, wait at least five to ten seconds before pushing it again. If the engine still does not start after several attempts, check the fuel and ignition systems.



FUEL AND OIL RECOMMENDATION

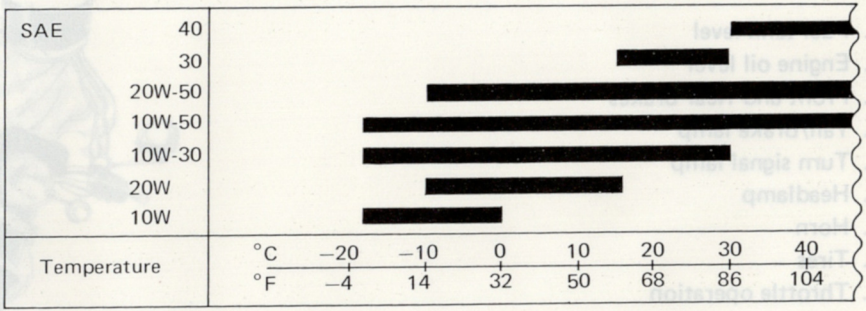
FUEL

Gasoline used should be graded 90 octane or higher in Research Method, preferably unleaded or low-lead.

ENGINE OIL

Be sure that the engine oil you use comes under API classification of SE or SD and that its viscosity rating is SAE 10W-40.

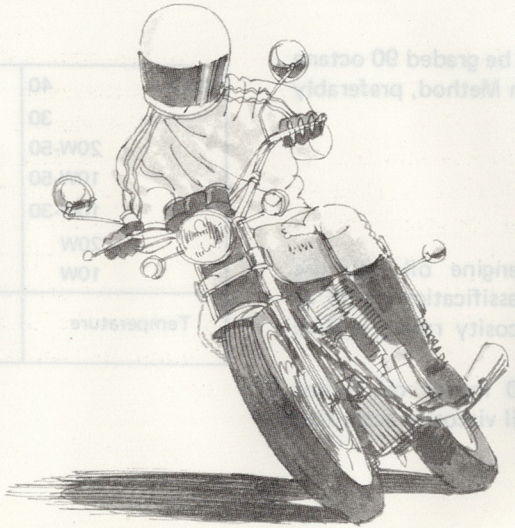
If the SAE 10W-40 motor oil is not available, select the oil viscosity according to following chart:



INSPECTION BEFORE RIDING

Check these items before riding out for the day:

1. Fuel tank level
2. Engine oil level
3. Front and Rear brakes
4. Tail/Brake lamp
5. Turn signal lamp
6. Headlamp
7. Horn
8. Tires
9. Throttle operation
10. Drive chain
11. Clutch operation
12. Steering operation



TIPS ON RIDING

STARTING ENGINE

- Assure that the fuel cock lever and engine kill switch are in ON and RUN positions.
- Insert the ignition key into the ignition switch and turn it clockwise one notch to ON position, and the NEUTRAL indicator lamp will light if the gears are in NEUTRAL. (It is a good practice to shift the gear into neutral before starting the engine.)

WHEN ENGINE IS COLD

- Push the carburetor choke lever. Close the throttle completely.
- Push the electric starter button (or depress the kick starter lever), and the engine will start.
- When engine becomes warm and engine rpm increases, pull up the choke lever gradually so that engine speed may be kept below 2,500 rpm.
- Return the choke lever all the way back.

WHEN ENGINE IS ALREADY WARM:

- Open the throttle 1/8 to 1/4 and push the electric starter button.
- Operation of carburetor choke lever is not necessary.

RIDING THE MOTORCYCLE

- Pull the clutch lever and engage first gear by depressing the gearshift lever.
- Twist the throttle grip inward toward you and at the same time release the clutch lever gently and smoothly; the motorcycle will start forward.

– To shift to a higher gear, accelerate gently, then close the throttle, pull the clutch lever and lift the gearshift lever upward to select the next gear. Release the gearshift lever and the clutch lever and open the throttle. Select the gears in this manner until top gear is reached.

HIGH SPEED RIDING

– Tire pressure should be increased as described on page 64.
– A cold spark plug is preferred to the standard NGK B-8ES or NIPPON DENSO W24ES. Use NGK B-9ES or NIPPON DENSO W27ES.
– The rear shock absorbers spring tension should be adjusted to meet road condition and motorcycle speed.

NOTE: Whichever gear position (1st, 2nd, 3rd, 4th, 5th or 6th) you use, be sure that the indicating hand of the tachometer will not swing over into the RED zone.

RIDING ON HILLS

– If the motorcycle slows down when riding up a hill, shift into a lower gear so that the engine will operate in its power range. Shift the gear rapidly to prevent the motorcycle from losing momentum.
– When riding down a hill, the engine may be used for braking by shifting to a lower gear.
Be careful, however, not to allow the engine to overspeed!

USE OF THE TRANSMISSION

Use the transmission wisely and keep the engine running smoothly. The gear ratios are carefully chosen to meet the characteristics of the engine. The rider should at all times select the most suitable gear for the prevailing conditions. Do not slip the clutch to control road speed.

STOPPING AND PARKING

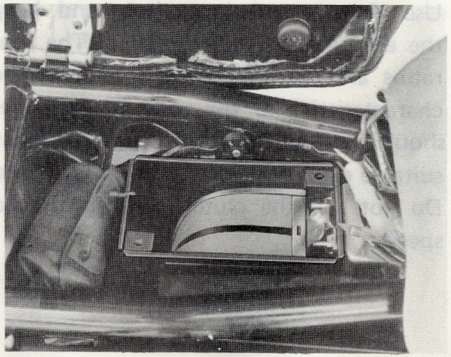
- Turn the throttle grip outward away from you to close the throttle completely.
- Apply the front and rear brake evenly at the same time, and the motorcycle will stop smoothly and safely. Using only the front or rear brake is dangerous and can cause skidding and loss of control. Make it a rule to always apply both brakes simultaneously.
- Apply the brakes lightly and with great care on wet highway pavement or other slippery surfaces and at corners. Abrupt braking on slippery roads or corner is particularly dangerous.
- Just before the motorcycle stops, be sure to shift the gear into neutral. Confirm this by observing the neutral indicator lamp.
- Turn the ignition switch key to the off position to stop the engine.
- Remove the ignition key from the switch.
- Lock the steering for security.

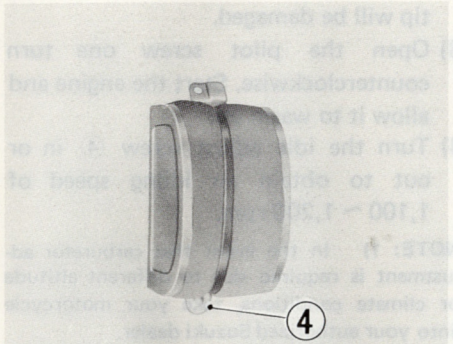
AIR CLEANER

If the air cleaner is clogged with dust, intake resistance will increase with a resultant decrease in output and an increase in fuel consumption. Clean the cleaner every 5,000 km (3,000 miles) according to the following procedures.

1) Open the seat and remove the tool kit and tool case.
2) Remove air cleaner case cover by unscrewing two fixing screws.
3) Take out the air cleaner element complete with the element frame by loosening its fitting screw.
4) Remove the polyurethane foam element ①, from the element frame ② by unhooking a steel band ③ holding the element and wash the element with gasoline.
5) After wringing gasoline out of the element, soak it with MOTOR OIL.
6) Wring oil out of the element and then fit it to the element frame.

NOTE: When the air cleaner element in the air cleaner case, be sure that a tongue ④ on the lower part of the element frame properly fits on the case.

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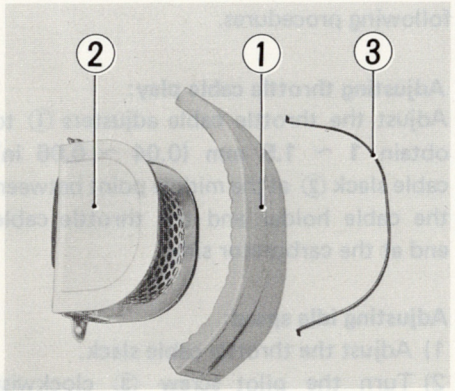
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CARBURETOR

This motorcycle is equipped with two automatically variable venturi type carburetors. A single control rod, actuated from the throttle grip through two wires, interlinks the two individual carburetors and keeps them in uniform operation.

Carburetion may change during the long use of the motorcycle and often becomes necessary to readjust the carburetor.

However, as the carburetor adjustment is extremely critical, the adjustment should be performed by an authorized Suzuki dealer only. In an emergency, you may adjust the idle speed by the following procedures.

Adjusting throttle cable play:

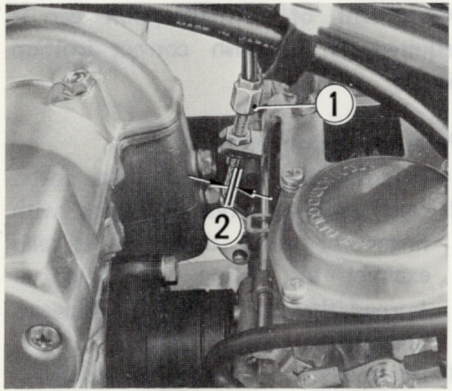
Adjust the throttle cable adjusters ① to obtain **1 ~ 1.5 mm (0.04 ~ 0.06 in)** cable slack ② at the middle point between the cable holder and the throttle cable end at the carburetor side.

Adjusting idle speed:

1) Adjust the throttle cable slack.
2) Turn the pilot screw ③ clockwise until it seats in the carburetor. DO NOT FORCE PILOT SCREW or the tip will be damaged.
3) Open the pilot screw one turn counterclockwise. Start the engine and allow it to warm up.
4) Turn the idle adjust screw ④ in or out to obtain an idling speed of 1,100 ~ 1,200 rpm.

NOTE: 1) In the event that carburetor adjustment is required due to different altitude or climate conditions, take your motorcycle into your authorized Suzuki dealer.

2) Mechanical malfunctions resulting from the owner tampering with carburetion adjustment will normally be invalid from warranty coverage.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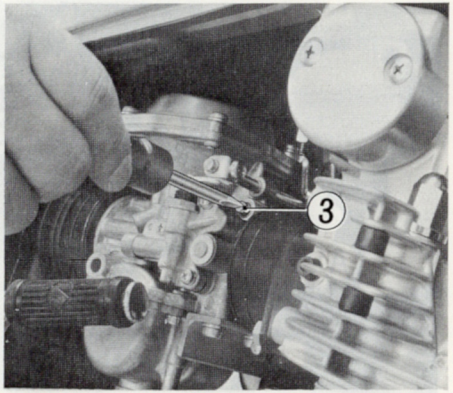
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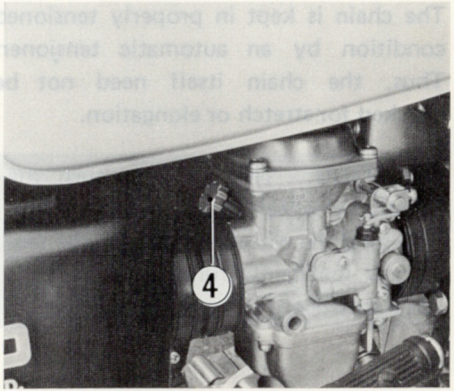
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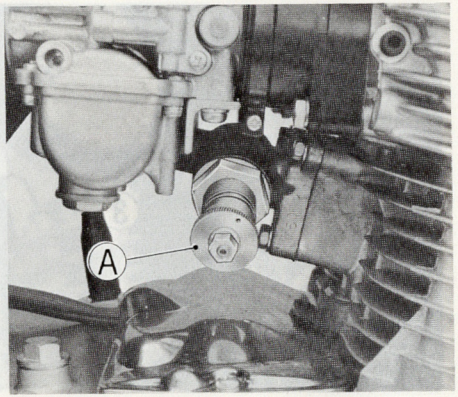
CAMSHAFT CHAIN TENSION

The chain is kept in properly tensioned condition by an automatic tensioner. Thus, the chain itself need not be checked for stretch or elongation.

CAUTION: Never try to turn the tensioner wheel Ⓐ in either direction. Turning the wheel could stress the tensioner mechanism unduly to spoil its performance.



IGNITION TIMING

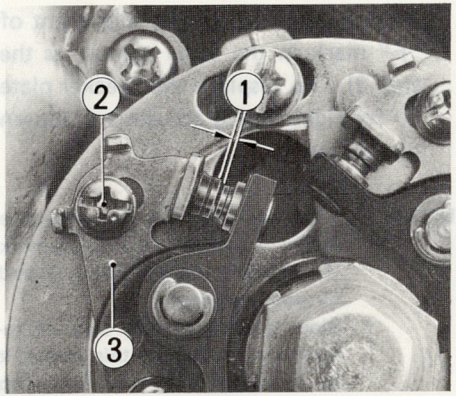
Adjustment of contact point gap is required to establish correct ignition timing.

Point gap adjustment:

1) Remove the crankcase right cover.
2) Open contact breaker points with finger or small driver blade and examine for pitting. If pitted or burned, the points should be replaced and condensers checked.
3) Rotate the crankshaft in the clockwise direction (see arrow) and stop rotating at the position where one of the breaker point gaps is at maximum;

check the gap by using a thickness gauge.

4) The standard gap ① is 0,3 ~ 0.4 mm (0.012 ~ 0.015 in).
5) If the gap is too wide or too narrow, loosen the contact breaker plate locking screws ② and move the plate ③ with a plane head screw driver to achieve the correct gap.
6) Secure the gap by tightening the locking screws.



Ignition timing adjustment:

The following procedure assumes that the point gaps in the breaker are set to the specification value:

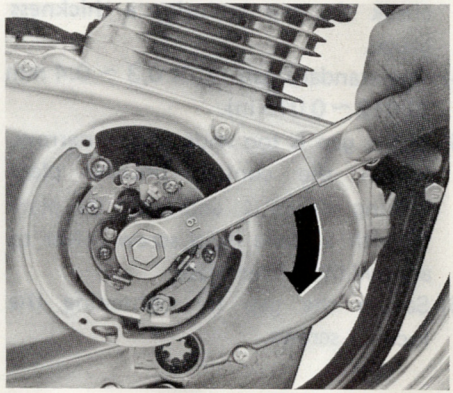
1) Remove two spark plugs, left and right, insert each plug into its cap and lay them down on the cylinder head.
2) Turn the crankshaft slowly until the mark "L" shows up in the inspection window.
3) Turn on the ignition switch, and rotate the crankshaft further in the direction of arrow while observing the left spark

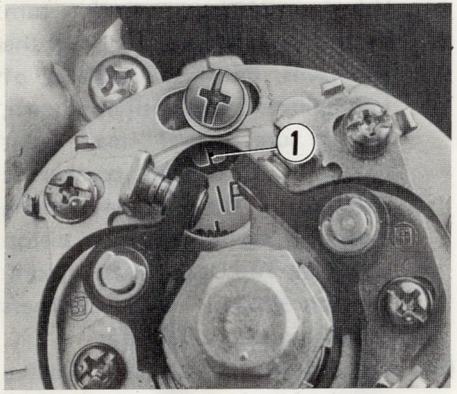
plug. Stop rotating the crankshaft just when the spark jumps from the plug being observed. Now, look into the contact breaker inspection window to see if "F" mark is indexed to the timing mark ①: If so, ignition for left cylinder is correctly timed; if not, loosen two screws ② securing contact breaker base plate ③ and displace this plate to bring the timing mark ① into register with mark "F" in the above manner.

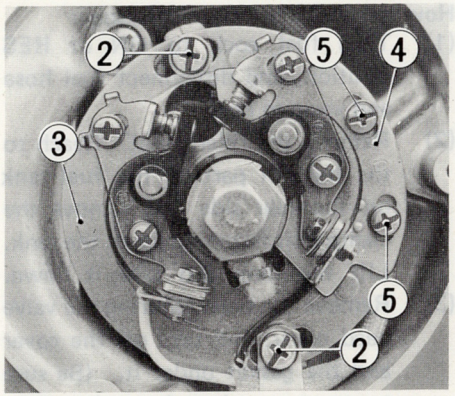
4) Turn the crankshaft approx. 180° to bring "R" mark in the inspection window and inspect the alignment of "F" mark in the same manner as the step 3). To displace the breaker plate ④ for right timing adjustment, loosen two screws ⑤.

NOTE: * After verifying that the respective marks "F" align to the timing mark ①, be sure to tighten screws ② and ⑤ good and hard.

* Since specialized skill may be required in performing this service, it is recommended that this job should be assigned to your authorized Suzuki dealer.







VALVE TAPPET CLEARANCE

The clearance between cam and tappet is specified. This clearance diminishes in time as the valves and their seats wear progressively to displace their tappets upward. Lack of engine power or abnormal noise coming from the valve mechanism is usually due to the improper clearance.

Because of this connection, valve tappet clearance is prescribed to be checked at regular intervals in PERIODIC INSPECTION SCHEDULE, page 78, by your authorized SUZUKI dealer.

Replacement parts and special tools are

needed to check and adjust the tappet clearance and, moreover, skill is required in performing this service. For this reason, it is recommended that this job be assigned to the SUZUKI dealer. Of course, the user can do it himself provided that he be skilled in this type of work and that the service manual, special tools, replacement gaskets and other are all on hand for ready use. For such a user, how to check the clearance will be explained, on the assumption that he will acquire the information necessary for adjustment from the service manual.

How to check the tappet clearance:

(1) Turn fuel cock to ON or RES position, and disconnect fuel hose and vacuum hose.

(2) Remove the rider's seat. Reach to the bottom part of the fuel tank on the rear side and remove the clamp bolt fastening down the tank. Lift the tank and take it down.

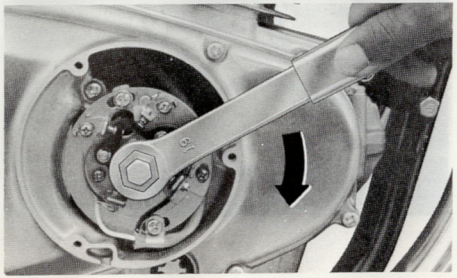
(3) Remove the bolts securing the valve head cover, and take off the cover and the gasket under it. (Be sure to use a new gasket when reinstalling this cover.)

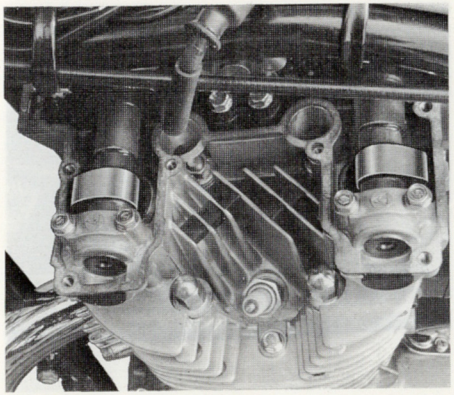
(4) Remove the contact breaker cover. Using a 19 mm wrench, turn crankshaft clockwise to bring the two cams, intake and exhaust, of Left cylinder to the positions shown, and be sure that "T" mark (next to "L") on contact breaker is indexed to the engraved timing mark (to signify that the piston exactly at Top Dead Center on compression stroke.) Use a thickness gauge to measure clearance.

(5) Turn crankshaft by 180° (half a rotation) and measure clearance of right cylinder.

Tappet clearance specification (COLD)

	Intake and Exhaust
Clearance	0.03 ~ 0.08 mm (0.0012 ~ 0.0035 in)





ENGINE OIL

Engine performance as well as engine life depends much on the quality of care the engine receives for its lubrication oil. Daily oil level check and periodical oil change are two important MUST items of care.

Engine oil change:

The oil should be changed when the engine is hot. The procedure is as follows:

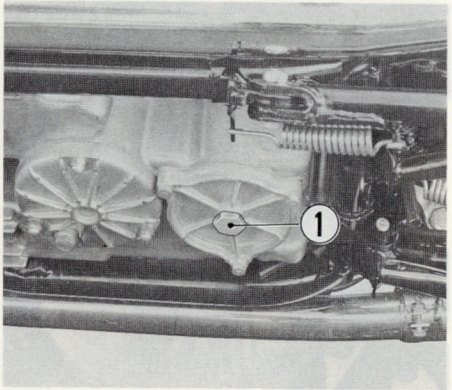
(1) Keep the motorcycle erect, supporting itself by the center stand.

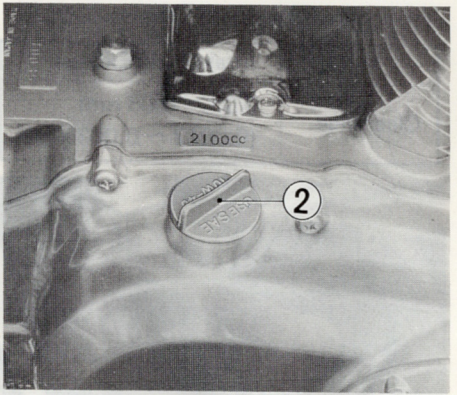
(2) Drain out the oil by removing the drain plug ① and filler cap ②.

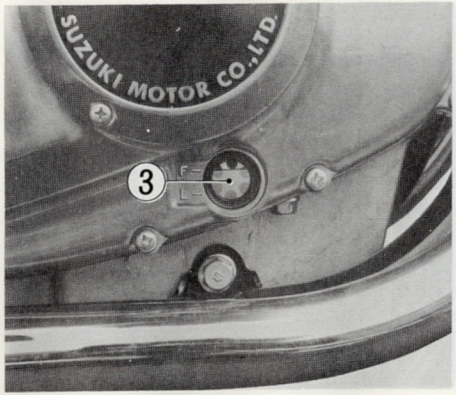
(3) Fit the drain plug securely, and add fresh oil through the filler. About 2,100 cc (4.44/3.76 US/Imp pt) of oil will be needed to fill up the oil pan.

(4) Start up the engine and allow it to run for several seconds at idling speed.

(5) Shut down the engine and wait about one minute, then check the oil level in the level gauge ③.
Should the level be found below "F" mark, add oil to the level.







Replacement of oil filter element:

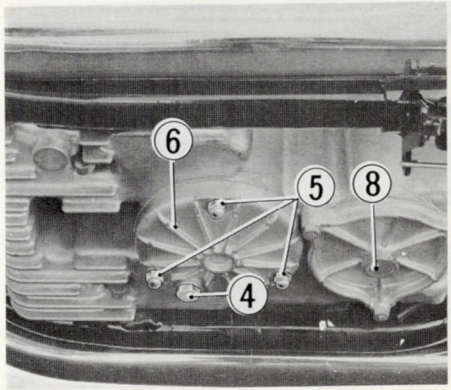
(1) Drain engine oil by loosening two drain plugs, ④ and ⑧.

(2) Remove three nuts ⑤ holding down the filter cap ⑥.

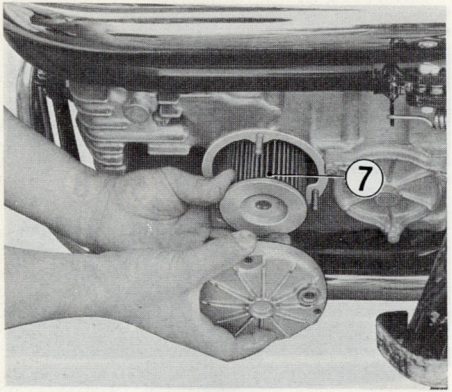
(3) Take off the cap, pull out the element and put in the replacement element ⑦.

(4) Put on the cap and secure it tight.

NOTE: Pour 2,600 cc (5.49/4.58 US/Imp pt) of engine oil into oil pan only when changing oil and replacing oil filter at the same time.

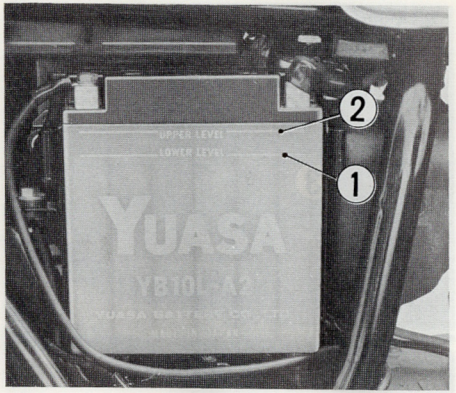


BATTERY



The battery solution must be kept above the lower limit line ① at all times. If the solution level is found below the lower limit line, add the pure distilled water up to the upper limit line ②. Do not add diluted sulphuric acid.

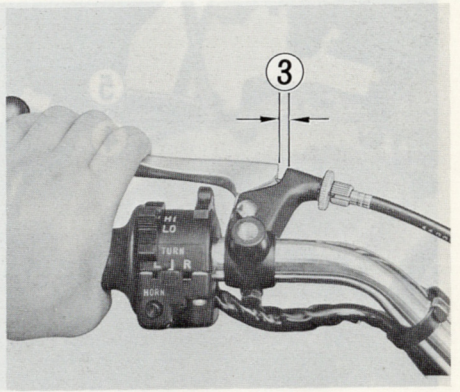
NOTE: Check the battery solution level every two weeks by removing right frame cover. Be careful not to bend the nylon air vent tube nor obstruct the venting.



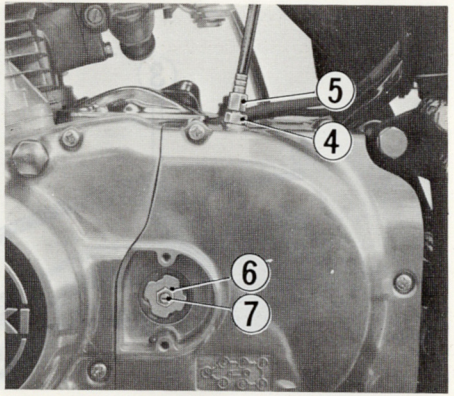
CLUTCH

Adjust the clutch by means of clutch cable adjuster and release adjusting screw. The play ③ of the clutch should be 4 mm (0.16 in) as measured at the clutch lever holder before the clutch begins to disengage. If you find the play of the clutch incorrect, adjust it in the following way:

- Loosen clutch cable adjuster lock nut ④, screw in the clutch cable adjuster ⑤ and give sufficient play to the clutch cable.
- Loosen the lock nut ⑥ temporarily by using open end wrench to turn the release adjusting screw ⑦.
- Run in the release adjusting screw ⑦ then back it out ¼ ~ ½ turn and secure the lock nut.
- Finally adjust the clutch cable adjuster on the engine left cover until about 4 mm (0.16 in) of play ③ is left at the clutch lever holder.



HEAD LAMP



The head lamp beam can be adjusted both horizontally and vertically if necessary.

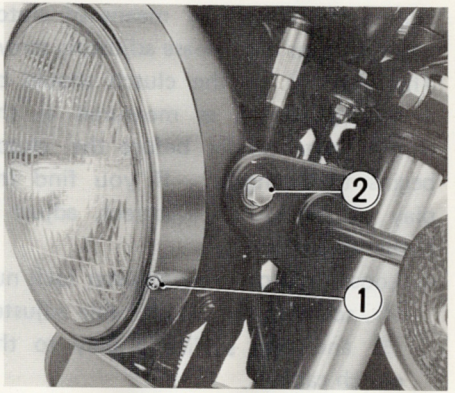
To adjust beam horizontally:

(only for USA and Canada)

Turn the cross head screw ① located on the left side of the headlamp unit clockwise or counter-clockwise.

To adjust beam vertically:

Loosen the headlamp housing fitting bolt ② and move the headlamp housing up and down as required.



SPARK PLUG

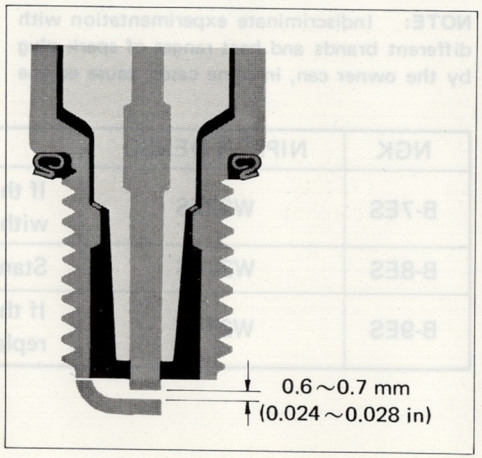
The NGK B-8ES or NIPPON DENSO W24ES spark plug is standard for this motorcycle. If the standard spark plug is unsuitable for your usage, that is apt to overheat (porcelain shows whitish appearance) or to get wet or sooty, change it as follows.
If another brand of spark plug than NGK or NIPPON DENSO, is to be used, consult your authorized SUZUKI dealer.

NOTE: Indiscriminate experimentation with different brands and heat ranges of spark plug by the owner can, in some cases, cause engine problems. Problems resutling from such tampering are outside of warranty coverage.

NGK	NIPPON DENSO	Remarks
B-7ES	W22ES	If the standard plug is apt to get wet, replace with this plug.
B-8ES	W24ES	Standard
B-9ES	W27ES	If the standard plug is apt to overheat, replace with this plug.

A spark plug heavily carboned or otherwise fouled will not produce strong sparking. Remove carbon deposits with a wire or pin and adjust the spark plug gap to 0.6 ~ 0.7 mm (0.024 ~ 0.028 in) for NGK and NIPPON DENSO by measuring with a thickness gauge.

NOTE: When installing the spark plug, screw it in with your fingers, to prevent stripping the threads, then tighten with a torque wrench to 2.5 ~ 3.0 kg-m (18.0 ~ 22.0 ft-lbs).



BRAKES

Brakes are the most important equipment for motorcycle safe riding.
Always check the brakes before riding.

Replenishing brake fluid:
Be sure to check the brake fluid level outside of the reservoir. If the level is found to be lower than the lower level mark, replenish the reservoir with one of the following motor vehicle brake fluid:

NOTE: The brake system of this motorcycle is filled with a glycol-based brake fluid.
Do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise the serious damage will be caused. Do not use any brake fluid taken from old or used or unsealed containers.
Never re-use the brake fluid left over from the last servicing and stored for long periods.

Specification and Classification	Remarks
DOT 3 DOT 4	In USA and Canada
SAE J1703a SAE J1703b SAE J1703c	Elsewhere
SAE 70R3 (obsolete specification)	

Air bleeding of brake system:
A brake lever "feeling" spongy or having an enlarged stroke meanes, in most cases, a trapped air in the brake fluid circuit. In such a case, have the air purged out by your authorized SUZUKI dealer. In an emergency, you may bleed the system in the following procedure. Two persons are needed to carry out this procedure.

(1) Attach bleeder tube ① to bleeder valve ② after removing the bleeder valve dust cap. A transparent tube is useful in finding air bubble expelled from the system.

(2) Submerge the tube in a clean container partially filled with the brake fluid.

(3) Fill up the reservoir with brake fluid graded "DOT 3" or "DOT 4" in USA or Canada and SAE 1703 or SAE 70R3 in other countries.

NOTE: Keep the reservoir at least half full during the bleeding procedure.

(4) Put on the reservoir cap to avoid a spout of brake fluid and entry of dust.

(5) Squeeze the brake lever several times and then hold it squeezed tight.

(6) Unscrew (open) the bleeder valve one half turn and squeeze the lever all the way down. Release the lever after closing the bleeder valve.

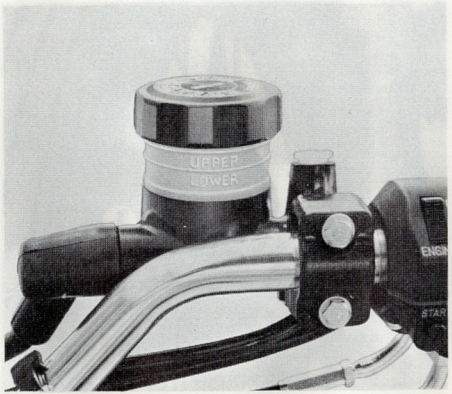
(7) Repeat step (5) and (6) until air bubbles disappear in the bleeder tube or container and screw in (close) the bleeder valve securely.

(8) Remove the tube and install the bleeder valve dust cap.

(9) Check the fluid level in the reservoir and replenish, if necessary.

(10) Reinstall the diaphragm and diaphragm plate and tighten the reservoir cap securely.

NOTE: Do not re-use the brake fluid drained from the system. Do not splash brake fluid: the fluid will damage the paint finish and instrument gauge lenses.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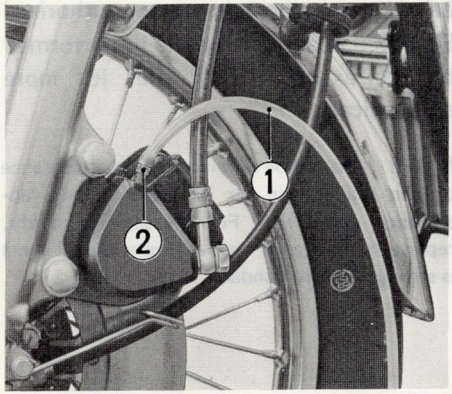
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Front brake:

Ask yourself these questions:

(1) Is the front brake system tight, free of any signs of fluid leakage?

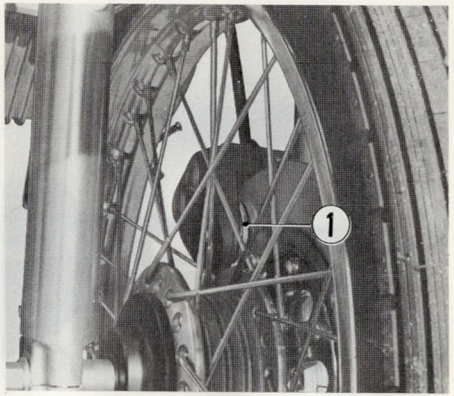
(2) Is the brake hose in good, sound condition, showing no evidence of deterioration or damage?

(3) Does the brake lever have a proper stroke, giving no "sponginess" at all?

(4) Is not each friction pad worn down to the red limit line ① to require replacement?

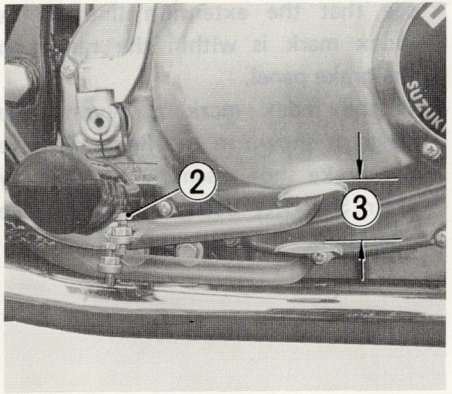
If a remedying job has to be done, then bring your motorcycle to your authorized SUZUKI dealer and have it performed by the expert. Play safe: it's more economical.

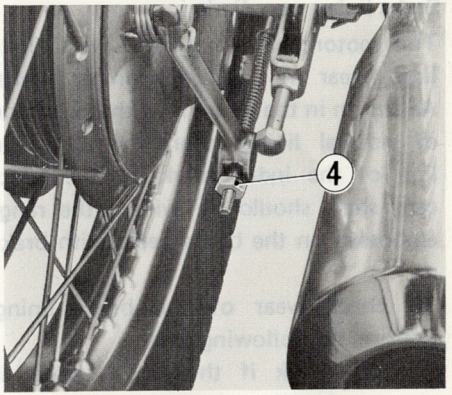
NOTE: Do not be deceived by the appearance of the brake hose for its integrity. Its appearance could lie. For the sake of safety, replacement of each hose at intervals of 2 years is strongly recommended.



Rear brake pedal adjustment:

When adjusting the travel of brake pedal, first set the pedal at its proper position for comfortable riding by turning the brake pedal stopper ②, and then adjust the free travel ③ to 20 ~ 30 mm (0.8 ~ 1.2 in) by screwing in or out the brake cable adjusting nut ④.





Brake lining wear limit:

This motorcycle is equipped with brake lining wear limit indicator on rear brake. As shown in the figure A at the condition of normal lining wear, the extension line of the index mark on the brake cam shaft should be within the range embossed on the brake pedal with brake on.

To check wear of the brake lining, perform the following steps.

- First check if the brake system is properly adjusted.
- While operating the brake, check to see that the extension line of the index mark is within the range on the brake panel.
- If the index mark is beyond the range as shown in the figure B, have the brake shoe assembly replaced by your SUZUKI dealer to insure safe operation.

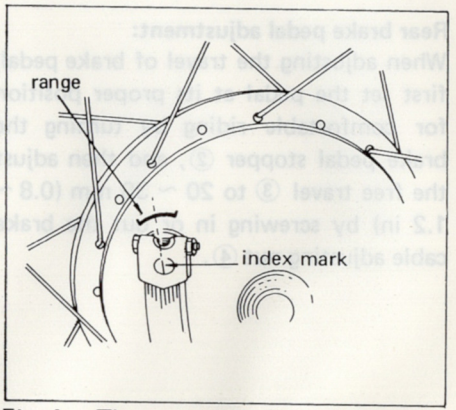


Fig. A The extension line of the index mark is within the range.

BRAKE LAMP SWITCH

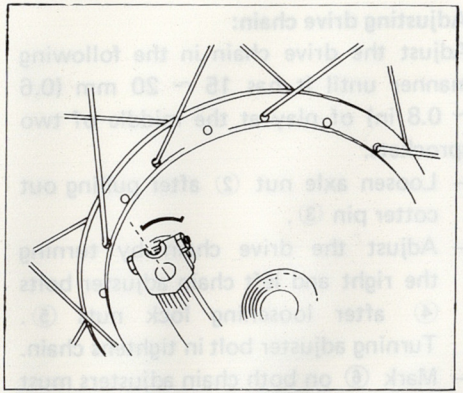
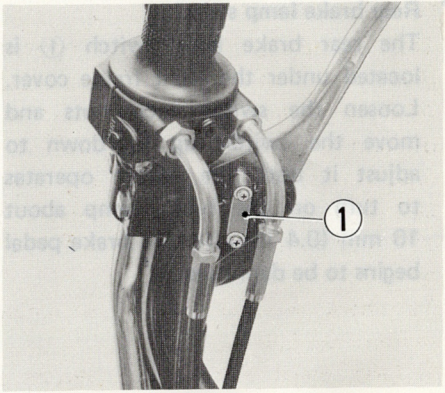
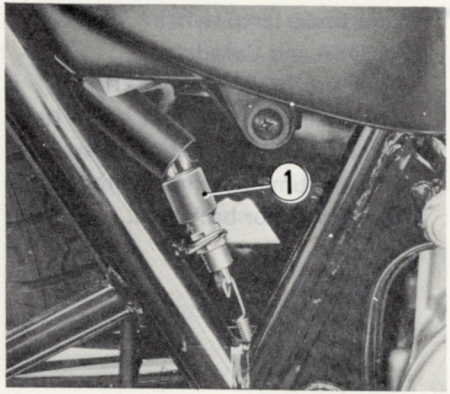


Fig. B The extension line of the index mark is out of the range.

* **Front brake lamp switch:**
(For USA and Canada)
The front brake lamp switch ① is located beneath the front brake lever. Loosen the switch fitting screws and adjust the timing by moving the switch body forward or backward.



* **Rear brake lamp switch:**
The rear brake lamp switch ① is located under the right frame cover. Loosen the switch lock nuts and move the switch up or down to adjust it until the switch operates to turn on the brake lamp about 10 mm (0.4 in) after the brake pedal begins to be depressed.



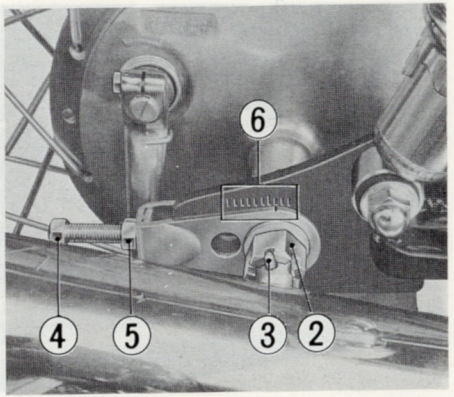
DRIVE CHAIN

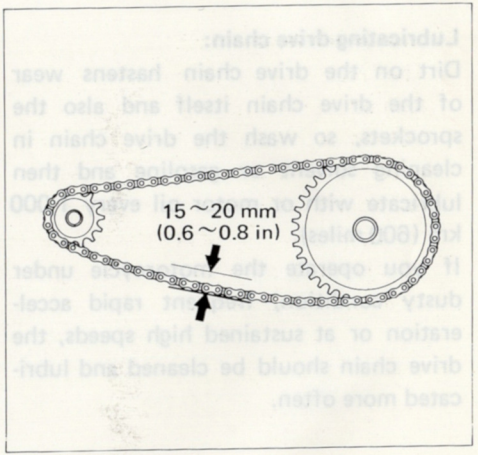
Adjusting drive chain:
Adjust the drive chain in the following manner until it has 15 ~ 20 mm (0.6 ~ 0.8 in) of play at the middle of two sprockets.

- Loosen axle nut ② after pulling out cotter pin ③.
- Adjust the drive chain by turning the right and left chain adjuster bolts ④ after loosening lock nuts ⑤. Turning adjuster bolt in tightens chain.
- Mark ⑥ on both chain adjusters must indicate the same position to mean that the front and rear wheels are

correctly aligned.

– After adjusting the drive chain tighten the axle nut securely and lock it with a cotter pin.

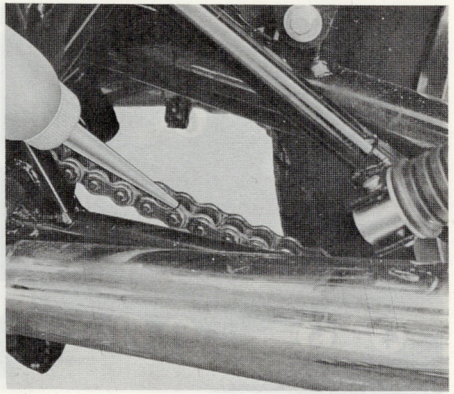




Lubricating drive chain:

Dirt on the drive chain hastens wear of the drive chain itself and also the sprockets, so wash the drive chain in cleaning solvent or gasoline and then lubricate with or motor oil every 1,000 km (600 miles).

If you operate the motorcycle under dusty condition, frequent rapid acceleration or at sustained high speeds, the drive chain should be cleaned and lubricated more often.



FRONT FORK OIL

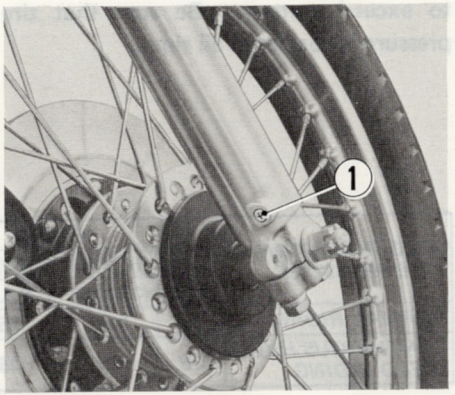
Under normal conditions the front forks will require no servicing other than an occasional change of oil. A low oil level will be indicated by excess movement of the forks, which could occur only after considerable mileage.

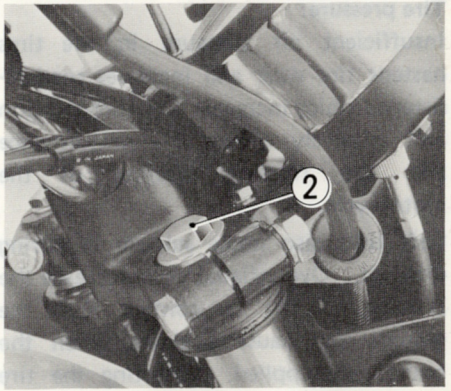
- Remove drain plug ① and oil filter cap ② provided on each fork leg.
- Contract and extend the fork several times by moving the machine up and down to thoroughly expel the oil.
- Refit the drain plugs after draining.
- Prepare a mixture of SAE 10W-30 motor oil and ATF (Automatic Trans-

mission Fluid), the ratio being 50-to-50.

– Measure 145 cc (4.90/5.10 US/Imp oz) of the mixture in a graduated beaker and pour it into each leg.
– Refit the oil filler caps.

The more oil in the fork, the stiffer the suspension becomes. Too little oil, however, causes abnormal noise and wear when running on bad roads.





TIRES

Tire pressure:

Insufficient air pressure in the tires hastens tire wear and increases road resistance which increases fuel consumption and adversely affects the performance and the running stability of the motorcycle.

Soft tires also make smooth cornering difficult. Overinflated tires decrease the amount of tire in contact with the ground and cause skidding when the brakes are applied, subjecting the tire to excessive stress. Be sure that tire pressure is correct at all times.

COLD INFLATION TIRE PRESSURE	FRONT				REAR			
	SOLO RIDING		DUAL RIDING		SOLO RIDING		DUAL RIDING	
	P.S.I	KG/CM²	P.S.I.	KG/CM²	P.S.I.	KG/CM²	P.S.I.	KG/CM²
NORMAL RIDING	25	1.75	25	1.75	28	2.0	32	2.25
CONTINUOUS HIGH SPEED RIDING	28	2.0	28	2.0	32	2.25	36	2.5

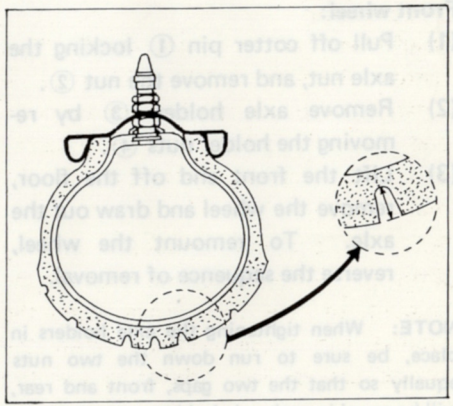
Tire tread condition:

Operating the motorcycle with the excessively worn tires will decrease riding stability and consequently invite a dangerous situation.

It is highly recommended to replace the tire when the remaining depth of tire tread becomes 1.6 mm (0.06 in) in front tire and 2.0 mm (0.08 in) in rear tire.

NOTE: The standard tire on your motorcycle is 3.00 S18-4PR for front, 3.50 S18-4PR for rear. The use of a tire other than standard may cause trouble.

It is highly recommended to use a SUZUKI Genuine Tire or a well-known brand of the specified size.



WHEEL REMOVAL

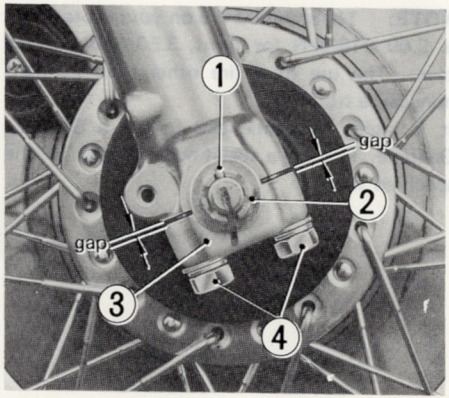
Front wheel:

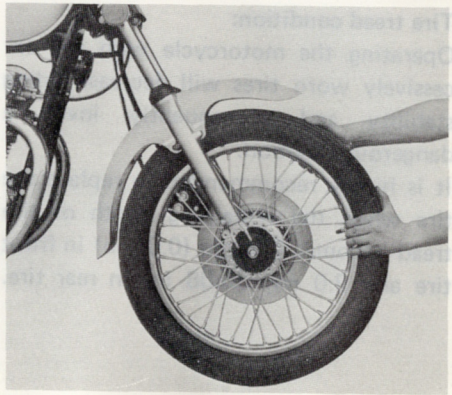
(1) Pull off cotter pin ① locking the axle nut, and remove the nut ②.

(2) Remove axle holder ③ by removing the holder nuts ④.

(3) Lift the front end off the floor, remove the wheel and draw out the axle. To remount the wheel, reverse the sequence of removal.

NOTE: When tightening the axle holders in place, be sure to run down the two nuts equally so that the two gaps, front and rear, will be equal in each axle holder.





Rear wheel:

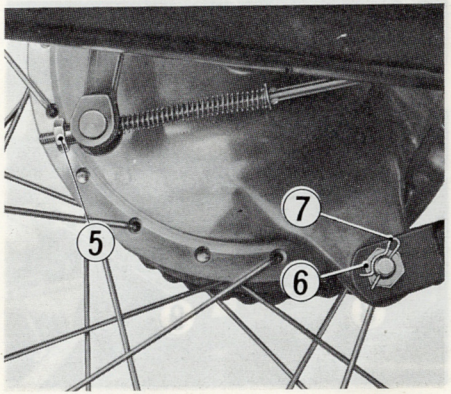
(1) Remove brake adjustor nut ⑤ and torque link nut ⑥ after pulling off the clip ⑦.

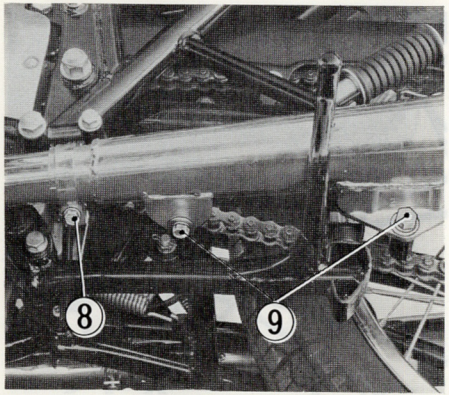
(2) Loosen muffler joint clamp bolt ⑧, remove two muffler fitting bolts ⑨ and take down the muffler of left side.

(3) Pull off cotter pin ⑩, remove axle nut ⑪ and draw out axle ⑫ from wheel in place.

(4) Separate sprocket ⑬ from wheel hub ⑭ and pull the wheel assembly rearward.

NOTE: When tightening axle nut after positioning the rear wheel in place, carry out the adjustment as outlined in DRIVE CHAIN, page 60, for chain tension. Be sure to tighten this nut with the chain properly tensioned.

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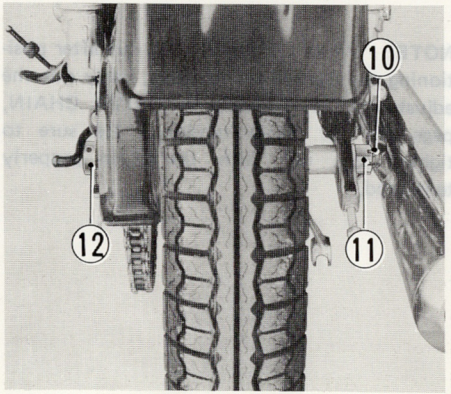
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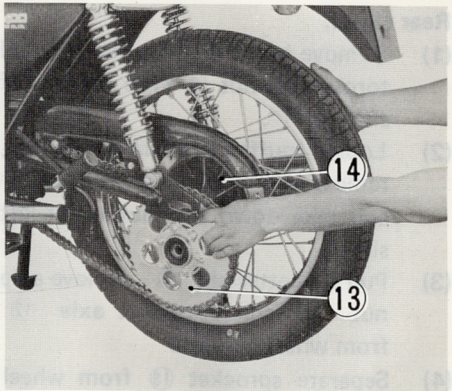
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BULB REPLACEMENT

When exchanging the light bulbs, always replace the bulb with that of the specified type and rating. This is important to prevent the electrical lighting circuit from malfunctioning. The light bulbs are listed below.

Headlamp bulb
12V 45/45W (12V 40/30W)
Brake/Tail lamp bulb
12V 23/8W (12V 32/3 cp)
Turn signal lamp bulb
12V 23W (12V 32 cp)

NOTE: The parenthesized figures show the specification for U.S.A. and Canada Markets.

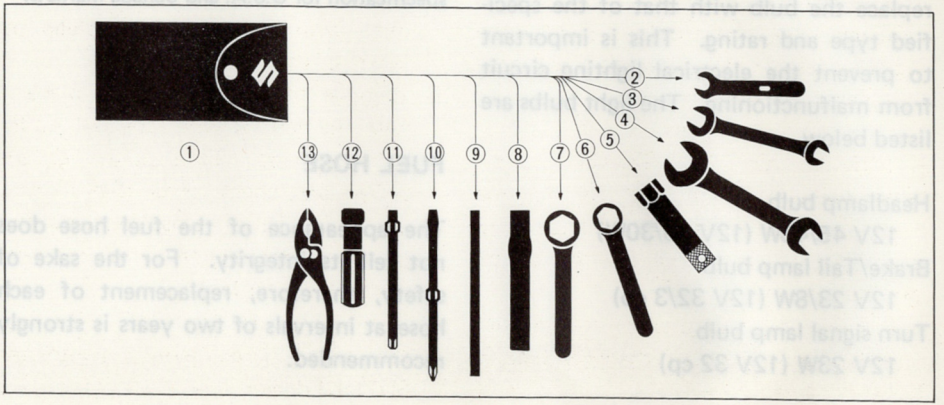
FUEL HOSE

The appearance of the fuel hose does not tell its integrity. For the sake of safety, therefore, replacement of each hose at intervals of two years is strongly recommended.

TOOL KIT

The tool kit is mounted under the seat. Minor adjustment and parts replacement can be performed with the tools contained in the kit.

Ref. No.	Item
1	Tool Bag
2	8 mm Open End Wrench
3	10 x 12 mm Open End Wrench
4	14 x 17 mm Open End Wrench
5	21 mm Box Wrench
6	19 mm Ring Wrench
7	24 mm Ring Wrench
8	Ring Wrench Handle
9	Box Wrench Handle
10	Conbination Screw Driver
11	Cross Head Screw Driver
12	Screw Driver Handle
13	Pliers



TROUBLESHOOTING

Regardless of design and manufacturing excellence, all machinery is subject to wear and occasional trouble. The following troubleshooting description will help in the event of trouble.

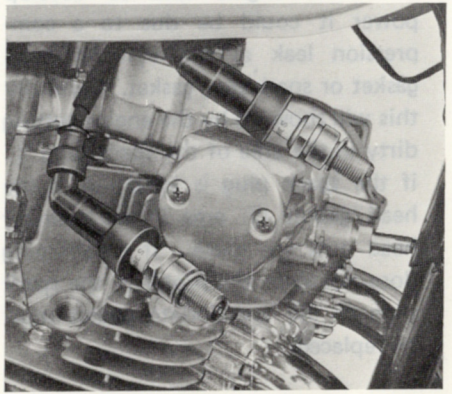
IF ENGINE DOES NOT START

When the engine is hard to start or does not start, there is generally something wrong in the fuel system or ignition system.

- Check to see that there is enough fuel in the tank and that the fuel cock is not clogged.
- Check to see if the spark plug porcelain and electrodes are wet or dirty with carbon. If so, clean the inside of the spark plug.
- Remove the spark plug and place it, with the ignition wire attached, on the cylinder head. Turn on the ignition switch and check to see that a strong blue spark jumps across the spark plug gap when the engine is cranked with the kick starter lever.

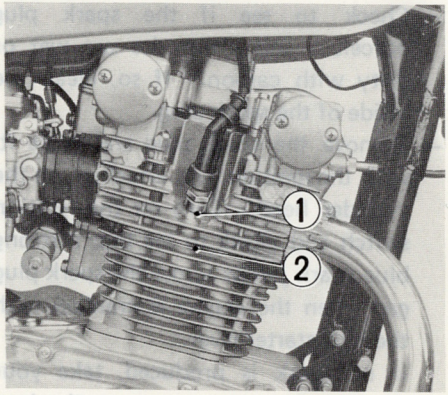
  If no spark is produced, take your motorcycle to your authorized SUZUKI dealer.

NOTE: Do not place the spark plug near the spark plug hole since the fuel mixture inside the cylinder could be ignited.



IF ENGINE FAILS TO DEVELOP POWER

– When the engine fails to develop power it could be due to a compression leak at the cylinder head gasket or spark plug gasket. Generally this will show-up by the engine getting dirty in the area of the spark plug ① if the spark plug is loose, or in the head gasket ② area if the cylinder head nuts are loose. If retightening dose not cure the problem, the spark plug or the appropriate gasket must be replaced.



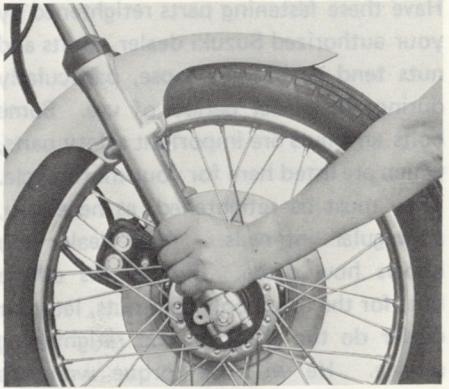
IF ENGINE STOPS SUDDENLY

– See if there is enough fuel in the tank and or if the fuel cock and fuel tank cap air vent are clogged.
– Check to see that the spark plug porcelain are not fouled with carbon.

BAD STABILITY AND STEERING

- Make sure that the front and rear tire pressures are proper.
- Make sure that there is no play in the front fork fitting.
- Check to see if the rear axle is fitted squarely in the swinging arm and the front and the rear wheels are perfectly aligned. If not, adjust by using drive chain adjusters.
- Check the swinging arm pivot nut for looseness.
- Check the tire tread condition.

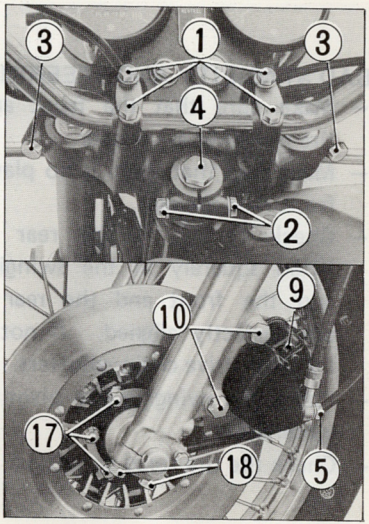
NOTE: Correct wheel alignment is very important on the GS400 not only to secure safety driving but to prevent one-sided wear of tires while running at a high speed. It is recommended for you to take your motorcycle to your dealer for correct alignment.

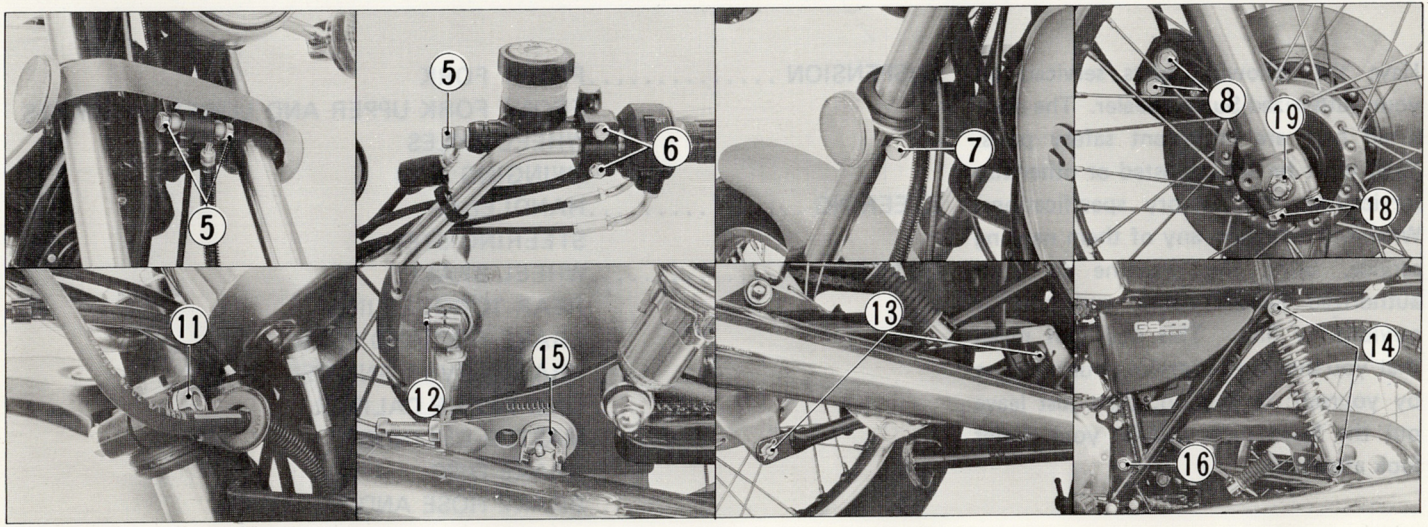


NOTICE (1)

Have these fastening parts retightened by your authorized Suzuki dealer. Bolts and nuts tend to become loose, particularly during the initial period of use. Some bolts and nuts are important safety parts, which are listed here for your motorcycle. They must be retightened, as necessary, at regular intervals. Your dealer too knows how often. Follow his advice but, for the listed bolts and nuts, let your dealer do the checking and retightening service. He will use torque wrenches and retighten them accurately to the factory specifications.

① *Handlebar clamp bolts*
② *Front fork upper bracket rear bolts*
③ *Front fork upper bracket bolts (R & L)*
④ *Steering stem bolt*
⑤ *Brake hose union bolts*
⑥ *Master cylinder bolts*
⑦ *Front fork lower bracket bolts*
⑧ *Caliper axle bolts*
⑨ *Caliper bleeder bolt*
⑩ *Caliper bolts*
⑪ *Brake hose clamp nut*
⑫ *Brake cam lever bolt*
⑬ *Rear torque link bolt and nut*
⑭ *Rear shock absorber nuts*
⑮ *Rear axle nut*
⑯ *Swinging arm pivot nut*
⑰ *Disc bolts*
⑱ *Front axle holder nuts*
⑲ *Front axle nut*

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NOTICE (2)

Have the following parts serviced by your authorized Suzuki dealer. The parts listed here are important safety parts. Each must be set, adjusted or otherwise serviced to the factory specifications. Whenever you find any of them needing service, bring the machine to your authorized Suzuki dealer and have it serviced by him. This does not mean that you should not service your machine by yourself; if you do, then just leave out the listed parts and let your dealer look after them.

SUSPENSION	FRONT FORK
	FRONT FORK UPPER AND LOWER BRACKETS
	WHEEL AXLES
	SWINGING ARM
STEERING	HANDLEBAR
	STEERING STEM
BRAKES	WHEEL BRAKES
	REAR TORQUE LINK
	BRAKE ROD AND PEDAL
	BRAKE LEVER AND PEDAL
	DISC BRAKE CALIPER
	MASTER CYLINDER
	BRAKE DISC
	BRAKE HOSE AND ITS JOINT

LUBRICATION SCHEDULE

Rotating and rubbing parts must be lubricated periodically. Insufficient lubrication will cause rapid wear or severe damage.

Lubricate the following parts periodically.

Item \ Interval	Initial 1,000 Km (600 miles)	Initial and every 2,500 Km (1,500 miles)	Initial and every 5,000 Km (3,000 miles)	Initial and every 10,000 Km (6,000 miles)
Engine oil	Change	Change	Change	Change
Throttle cable	—	—	Motor oil	Motor oil
Throttle grip	—	—	—	Grease
Contact breaker cam oil felt	—	—	Motor oil	Motor oil
Wheel bearings	Grease every 2 years or 20,000 Km (12,000 miles)			
Speedometer gear housing				
Steering stem bearings				
Swinging arm				
Drive chain	Every 1,000 Km (600 miles)			
Front fork oil	Change	—	—	Change
Clutch cable	—	—	Motor oil	Motor oil
Brake pedal	—	—	Grease or oil	Grease or oil
Brake cam shaft	—	—	—	Grease

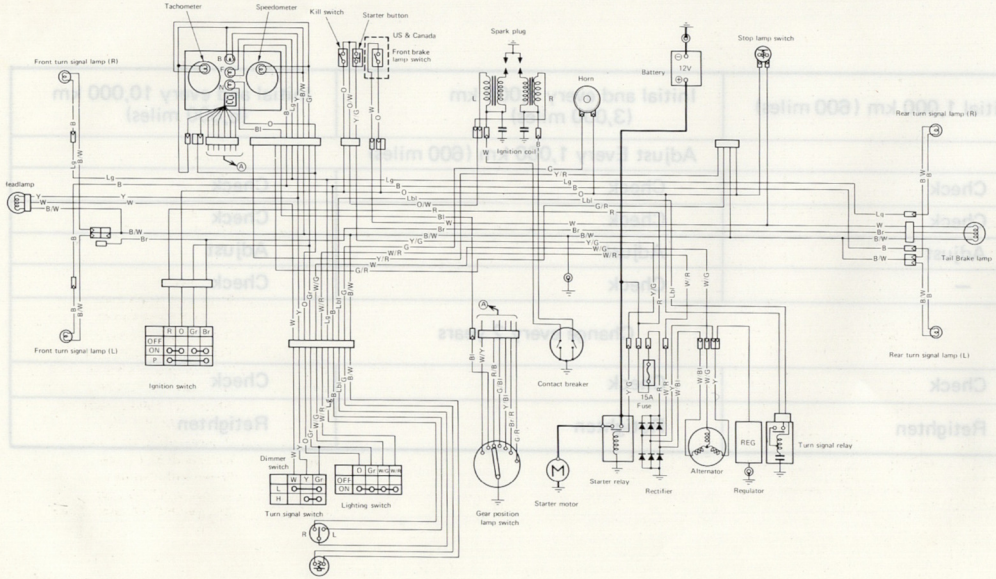
PERIODIC INSPECTION SCHEDULE

Periodic inspection of the motorcycle is the most important thing to prolong its life and to ensure your safety driving. Take your motorcycle to your Suzuki dealer for these inspections without fail.

Item \ Interval	Initial 1,000 km (600 miles)	Initial and every 5,000 km (3,000 miles)	Initial and every 10,000 km (6,000 miles)
Oil filter	Change	Change	Change
Carburetor	Adjust	Adjust	Adjust
Contact breaker point and timing	Check and adjust	Check and adjust	Check and adjust
Spark plug	Clean and adjust gap	Clean and adjust gap	Replace
Air cleaner element	—	Clean	Clean
Clutch	Adjust	Adjust	Adjust
Exhaust pipe and muffler	Retighten	Retighten	Retighten
Compression	Check	Check	Check
Oil pressure	—	Check	Check
Oil sump filter	—	—	Clean
Tappet clearance	Check	Check	Check

Item \ Interval	Initial 1,000 km (600 miles)	Initial and every 5,000 km (3,000 miles)	Initial and every 10,000 km (6,000 miles)
Drive chain	Adjust Every 1,000 km (600 miles)		
Battery	Check	Check	Check
Brake system (Front and rear)	Check	Check	Check
Throttle cable	Adjust	Adjust	Adjust
Tire	—	Check	Check
Fuel hose	Change every 2 years		
Brake hose			
Steering	Check	Check	Check
All Nuts and bolts (Engine and body)	Retighten	Retighten	Retighten

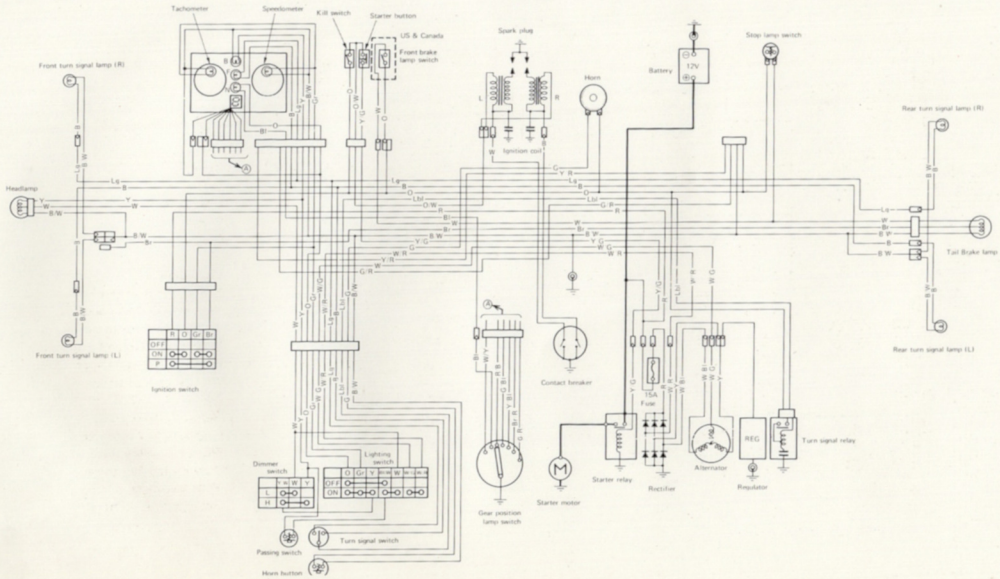
WIRING DIAGRAM (For USA and Canada market)



WIRE COLOR

B	Black
W	White
R	Red
Y	Yellow
O	Orange
G	Green
Lg	Light green
Br	Brown
Gr	Gray
Bl	Blue
Lbl	Light blue
B/W	Black with White tracer
Y/R	Yellow with Red tracer
G/R	Green with Red tracer
Y/G	Yellow with Green tracer
W/G	White with Green tracer
W/R	White with Red tracer
W/Y	White with Yellow tracer
R/B	Red with Black tracer
O/W	Orange with White tracer
W/Bl	White with Blue tracer
Br/R	Brown with Red tracer
Y/Bl	Yellow with Blue tracer
G/Bl	Green with Blue tracer

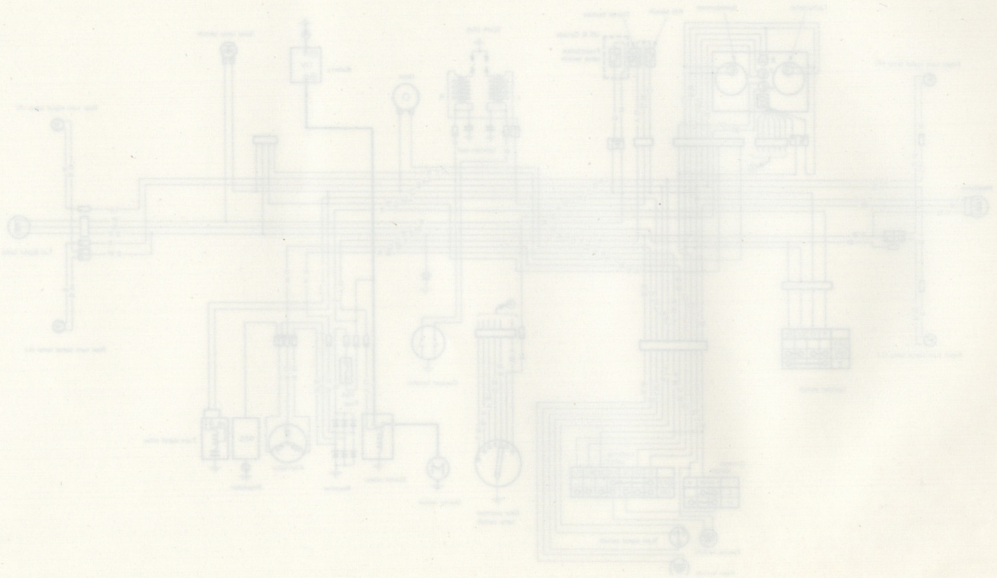
(Other market than USA and Canada)



WIRE COLOR

B	Black
W	White
R	Red
Y	Yellow
O	Orange
G	Green
Lg	Light green
Br	Brown
Gr	Gray
Bl	Blue
Lbl	Light blue
B/W	Black with White tracer
Y/R	Yellow with Red tracer
G/R	Green with Red tracer
Y/G	Yellow with Green tracer
W/G	White with Green tracer
W/R	White with Red tracer
W/Y	White with Yellow tracer
R/B	Red with Black tracer
O/W	Orange with White tracer
W/Bl	White with Blue tracer
Br/R	Brown with Red tracer
Y/Bl	Yellow with Blue tracer
G/Bl	Green with Blue tracer

MEMO



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